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The purpose of this study was to investigate homemakers' knowledge and utilization of the floor washer-dryer, floor polisher, and rug shampooer. The objectives were to identify the basic floor care appliances that homemakers own, rent, or borrow for the care of their homes; determine the frequency of use of these appliances and by whom used; identify the sources and extent of the homemakers' knowledge; identify factors which may be associated with the extent of appliance use.

A questionnaire was developed for collection of data from one hundred and ninety-two members of eight women's organizations in Greensboro and Mecklenburg County, North Carolina, and other appliance users contacted on a referral basis. Characteristics of appliance users differed from non-users. They were small or medium sized expanding families and were younger, had more formal education and higher incomes, were more frequently employed outside the home, and employed more domestic help for household cleaning.

A majority of the respondents used only one of the appliances under study; most had been purchased from appliance dealers. Most of the washer-dryers and one-half of the polishers used were owned; the majority of the shampooers were rented.

All appliances were used primarily by homemakers and

secondly by domestic employees. Purchased appliances were used more frequently than those received as gifts. Modal usage of washer-dryers was weekly, polishers monthly or yearly, and shampooers yearly or less frequently.

Magazines and television were the primary sources of appliance information. More homemakers had knowledge prior to appliance use concerning care, use, and storage than concerning functions and features.

Based on a five point rating scale, satisfactions were highest for the polisher and lowest for the shampooer. The combined total score for all appliances was higher than satisfactory. Upkeep was the highest rated factor, and storage was rated lowest.

Replacement intentions were highest among polisher owners and lowest among shampooer owners. Washer-dryer owners showed the greatest indecision regarding replacement.

Homemakers did not know the potential of the appliances they used. Probable associated factors include: stage of family life cycle, income level, employment of homemaker, types and areas of floor coverings, and reliance on biased or promotional sources of information.

Approved by


Director

APPROVAL SHEET

This thesis has been approved by the following
committee of the Faculty of the Graduate School at the
University of North Carolina
HOMEMAKERS' KNOWLEDGE AND UTILIZATION
OF THREE FLOOR CARE APPLIANCES

by

Elizabeth Ann Wilcox

Thesis
Director

Oral Examination
Committee

A Thesis Submitted to
the Faculty of the Graduate School at
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in Partial Fulfillment
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Date of Examination

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CHAPTER I

INTRODUCTION

Rapid technological advances in recent years have produced an increasing variety of equipment designed to change and ease the routine of housekeeping. Since the close of World War II, more than prior to that time, a great deal of equipment has been added to the American home. Major appliances have been changed, and small accessory ones have been invented.

In America today casual living, a blending of functionalism with aesthetic beauty, has encouraged the development of new materials for home furnishings. As uses for them are devised, consideration must be given to their cleaning and easy maintenance. Therefore, numerous innovations in floor care appliances have resulted from the more frequent installation of carpeting and the increased use of resilient floor coverings and hard floor surfaces in today's homes.

There is no one all-purpose electrical floor care appliance on the market today. This necessitates the use of several different cleaning tools. The vacuum cleaner is recognized as an excellent device for removing loose dust and dirt; however, floor equipment designed to clean in a

wet medium is relatively new in many households. Although certain models have multipurpose uses, each basic appliance is intended only for care of specific types of floor coverings.

Do homemakers understand the functions for which these appliances are intended, and do they use them to the greatest advantage? At what stage of the family life cycle do they use them? From what sources do they learn about these appliances, and do they have adequate basic knowledge prior to using them? Do homemakers prefer owning them as opposed to renting or borrowing them? Answers to these questions are needed to serve as indicators for future demands for consumer information and for appliance purchase and rental.

Three non-commercial floor care appliances were the focus of this study. They were the floor washer-dryer, the floor polisher, and the rug shampooer.

Because there was no knowledge of previous research regarding the use of any of these appliances, it was the aim of this study to gain information from homemakers who had experienced their use, whether the appliances were owned, rented, or borrowed.

Purpose

This study was designed to describe the sources and extent of homemakers' knowledge and utilization of three

floor care appliances.

The purposes were to:

1. Identify the basic floor care appliances that homemakers own, rent, or borrow for the care of their homes.
2. Determine the frequency of use of these appliances and by whom used--the homemaker, other members of the family, or domestic employees.
3. Identify the sources and extent of the homemakers' knowledge as to the operation and care of these appliances.
4. Identify factors which may be associated with the extent of appliance use by homemakers.

Definition of Terms

Floor Washer-Dryer. Electric appliance designed to wash, rinse, and vacuum-dry smooth surfaced floors; comprised of non-powered brushes in a nozzle, containers for clean and dirty scrub solution, and a small motor-driven fan which provides suction needed to remove the dirty solution from the floor. In appearance it resembles the light-weight upright vacuum cleaner (4, 12, 13).

Floor Polisher. Electric appliance designed to scrub, apply paste or liquid wax, and to polish or buff floors. It utilizes motor-driven brushes but no

suction. Models are available with one, two, three, or four brushes, but those with two brushes are most common (4, 11, 15).

Rug Shampooer. Electric appliance designed to dispense liquid rug cleaning solution and to remove soil from the nap with motor-driven brushes or discs.

Stages of Family Life Cycle. Four stages of the family life cycle adapted for this study are identified as follows:

Young Couple. Families, without children, in which the homemaker is under thirty-five years of age.

Founding Family. Families having some children, all in the preschool period.

Expanding Family. Families whose children at home are in the elementary school or high school period.

Contracting Family. Families in which the homemaker is thirty-five years old or older, and the youngest child is beyond the high school period (2).

Family Size. For the purposes of this study, families were classified according to the number of persons living in the household as follows:

Small. Families of one to three members.

Medium. Families of four or five members.

Large. Families of six or more members.

Ages. Respondents' ages were arbitrarily grouped as follows:

Young. Younger than thirty-five years.

Middle. Between thirty-five and forty-nine years.

Older. Fifty years or older.

Incomes. For purposes of this investigation, the following classifications of annual family incomes were utilized:

Low. Less than \$5,000.

Middle. \$5,000 to \$9,999.

High. \$10,000 or more.

Literature will be reviewed in Chapter II. Procedure will be described in Chapter III. The findings, summary, and conclusions will be presented in the subsequent chapters.

Economic Trends Affecting the Housewares Industry

During the past decade there has been an average annual production increase of 1.4 per cent in the housewares industry. Decreases were recorded in only four of those years (10). Total retail value of manufacturer shipments in 1965 was \$1.34 billion compared to \$846 million in 1955 (19).

The Consumer and Food Economics Research Division of the United States Department of Agriculture reported that production of household equipment in 1965 was at an all-time

CHAPTER II

high level, 5 to 7 percent for 1964 (17). At the end of 1965 Merchandising Week reported an annual increase

REVIEW OF LITERATURE

Modern household equipment, an important factor in changing household practices, has been defined as anything that contributes through its use to household production in the creation of a new product or in the maintenance or improvement of an existing product (3).

All studies found on floor care appliances dealt with the vacuum cleaner. Other research reviewed incorporated some floor care appliances in discussing economic trends affecting the housewares industry, sources and extent of consumer information about electric equipment, acquisition and use of equipment, and floor equipment as labor-saving devices. Pertinent aspects of these are cited in this chapter.

Economic Trends Affecting the Housewares Industry

During the past decade there has been an average annual production increase of 1.4 per cent in the housewares industry. Decreases were recorded in only four of those years (10). Total retail value of manufacturer shipments in 1965 was \$1.38 billion compared to \$846 million in 1955 (19).

The Consumer and Food Economics Research Division of the United States Department of Agriculture reported that production of household goods during 1965 was at an all-time high level, 5 to 7 per cent above that for 1964 (17). At the end of 1965 Merchandising Week reported an annual increase in shipments of 10.5 per cent, the highest recorded for the industry (10).

This trend, in part, is credited to the increasing population of young people who are establishing homes including many kinds of convenience equipment which were considered to be luxury items or did not even exist a few years ago. In addition, older families sometimes replace outmoded equipment before it is worn out (17).

Information on consumer buying intentions is a useful aid in forecasting purchases, but the level of intentions may be quite different from the level of actual purchases. The quarterly survey conducted by the Bureau of Census, United States Department of Commerce, in October 1965, found that 19 per cent of households surveyed in regard to seven selected equipment items reported intentions to purchase at least one among them within six months. Although statistically this percentage was not significantly higher than that of the previous year, it was significantly higher than the October 1963 figure of 16.8 per cent (1).

Hoover stated that continued increases in sales are expected although the growth rate in 1966 may not be as

large as in 1965 (17). Merchandising Week's survey of leading housewares manufacturers projected a 6 per cent increase for the current year with a retail value of \$1.46 billion. Vacuum cleaners are expected to contribute 28.5 per cent of the total projection and floor polishers 3.3 per cent, the latter representing an increase of only 1.5 per cent. In 1955 polishers contributed 2 per cent of the total annual figure and 4.5 per cent in 1961 (10, 19).

Discretionary spending power, which in 1965 was 202 per cent of that in 1950, is expected to grow another 78 per cent in the next ten years. McGraw-Hill's Department of Economics was quoted as having forecasted the median income would increase from \$7,000 in 1965 to \$8,000 by 1975 (20).

According to Martin R. Gainsbrugh, economist, as educational levels rise and as more wives become gainfully employed, "the mass market is rapidly becoming a class market dominated by families earning over \$10,000." In 1950 only 7 per cent of families had over \$10,000 a year to spend yet accounted for 20 per cent of the total buying. In 1965 25 per cent of the population had an income of \$10,000 and accounted for half of all purchasing while only 3.5 per cent of all families earned under \$3,000. It is projected that by 1975, 40 per cent of the families will earn over \$10,000 annually and will account for two-thirds of all consumer buying (18).

It is further stated that these changes should mean

rapid growth of luxury industries, a reaching up by consumers for higher-priced quality merchandise in the years ahead (18). Wood in describing the consumers of the future indicated they will desire more service (20).

Sources and Extent of Consumer Information about Electric Equipment

Much has been written on the need for consumer education, and especially is this true as more people have larger disposable incomes and an increasing variety of goods on the market from which to select. Gault states that if business is to fulfill its responsibility to the consumer, the appliance industry needs a sophisticated customer who probes into an appliance before buying; who demands safety features, quality performance and proper warranty coverage; and who in turn is willing to pay a reasonable price. He must be aware of the differences in product lines and manufacturers' policies of which prices are mere indicators (14).

Hazel Kyrk states her philosophy as follows:

Education for wise consumption . . . must be a planned attempt to co-ordinate the diverse fields of thought that have something to contribute to the shaping of the consumer's standards of choice and to direct what they have to offer to the specific problems involved. . . . The consumer must learn to consult his individual need, to form his own judgments, to desire for himself and to respect in others a creative, experimental attitude toward the various means that are offered him for the enhancement of his health and comfort, or the enrichment of his experience (5).

One of the aims of home economists in the field of

household equipment is to assist families by providing information which will help them realize the most for their investment through:

1. the realization of their specific needs in the selection of appliances.
2. effective use of an appliance to its capacity to perform and conservation of the user's time and energy in performing the task in which the appliance is involved (27).
3. knowledge of sources of information.
4. alertness toward fraudulent or misleading advertising (6).

Homemakers have been found to lack knowledge necessary to use their equipment fully and to care for it satisfactorily (9). Mearig found that many homemakers did not know the brand or make of specific appliances they owned. Price and advice of friends had been the main influences in their choice of brands (25).

Merchandising Week cited the need for consumer education and particularly in-store demonstrations for realization of full sales potential of floor polishing and rug shampooing equipment (16).

For many years Consumer Report and Consumer Bulletin have monthly published results of tests on household appliances and subsequent ratings by their sponsoring organizations.

What CU's (Consumer Union's) ratings offer is comparative buying information, the use of which, CU believes, will enormously increase the consumer's chances of getting his money's worth. Ratings are based on laboratory tests, controlled use tests, expert opinion and experience, or a combination of these factors. It is CU's pledge that any opinions entering into its rating shall be as free from bias as it is possible to make them (8).

Mearig pointed out that the primary sources of information to appliance users frequently have been the use and care booklet supplied by the manufacturer with each appliance (25). Conner, et al. noted that most homemakers said they learned to operate their appliances from the use and care booklet or from sales personnel. They recognize this places a great responsibility on the equipment manufacturer to see that adequate and easily followed directions are given with each purchase. The salesperson, too, should be able to present accurate information on important items of use and care rather than emphasizing minor points (9).

Van Syckle found that principle sources of buying information for purchasers of "large-expenditure" items of equipment were, in order of frequency, comparative shopping, recommendations of other consumers, advertisements, consultation with salesmen, articles read, demonstrations, and previous experience. Labels furnished information on the use of the item and specific guarantees (22).

In a study of ten leading women's magazines, Watt reported that although a small percentage of lineage was given to equipment articles during the years 1940 through

1949, there was an increasing trend for such to be included. All magazines under study gave some equipment information though some were more complete than others (27).

When homemakers were interviewed on magazine choices and readings, they seldom remembered specific equipment articles read, and none of them felt they were helped in equipment selection by information from magazines (27).

Mearig reported that equipment articles rated fourth in importance among 198 Indiana homemakers who had access to some homemaking magazines. She concluded that homemakers have or use few opportunities for learning about use and care of equipment (25).

Acquisition and Use of Equipment

No research on the use of household equipment by persons other than homemakers was found in the literature, nor was any information located on the use of rented or borrowed appliances. Most of the writings reviewed were concerned with motivation of purchase and the use of owned appliances by homemakers.

It has been suggested that not only homemakers' attitude toward household tasks might affect the frequency of use of household equipment, but also how the equipment was acquired may have some influence upon its use. In a study on small appliance ownership, Graves and Albrecht found over half of the appliances owned by a group of young

homemakers had been received as gifts, and these gifts were used less frequently than equipment they purchased (15). Similar findings were reported by Guthrie in 1959 (24) and by Caudle in 1962 (23).

In addition, Guthrie found there were only slight differences in ownership and use of equipment by employed and non-employed homemakers (24). Caudle's study, however, showed a greater percentage of full-time homemakers than those employed outside the home who reported ownership of the items studied (23).

In Miller's study 25 per cent of the homemakers indicated that they considered the floor polisher as their probable next purchase among floor appliances. Twenty per cent said the vacuum cleaner probably would be their next purchase, and 10 per cent planned to buy a rug shampooer first (26).

Floor Equipment as Labor-Saving Devices

Merchandising Week suggests that "home cleaning can be easy as child's play" with modern, convenient housewares of which floor care products are examples (16).

Hoopes determined energy expenditure rates when utilizing three different methods of floor care. Energy cost was significantly greater when washing or rinsing on hands and knees than when washing or rinsing with a tool used in a standing position. Of the three methods, the

least energy was expended when using a household floor machine, but more time was required for washing floors in this manner than by any of the other methods. When overall time and energy rates per square yard were calculated, energy expenditures were similar for washing with the floor machine and with a cloth on hands and knees (21).

Data from time records for twenty-three families showed an association of time-use with family size and stage of the family life cycle. More time was spent on floor care activities by homemakers with larger families than by those with smaller ones and by families with younger children than by those with older ones (21).

In 1962 Consumer Bulletin expressed doubts for the washer-dryer's success on the market. The reason given was that although the floor washer-dryer eliminated some of the "mess and bother" of floor cleaning, it failed to reduce the work involved in the actual scrubbing operation (12).

Later, in an evaluation of rug shampooers, Consumer Bulletin stated that cash outlays could be saved by cleaning rugs and carpets at home. Even though results might be satisfactory, the hard physical work involved could not be ignored (7).

This implies that labor saving cannot be justified as a factor in the choice to use the floor washer-dryer or the rug shampooer.

CHAPTER III

PROCEDURE

This exploratory study was designed to gain information from approximately 200 women regarding their knowledge and utilization of the floor washer-dryer, floor polisher, and rug shampooer. A questionnaire was developed for use in collecting data pertinent to the objectives of this investigation after review of relevant studies and consultation with specialists in the field. Items in the first part of the questionnaire dealt with: (a) types and ages of floor care appliances used, whether owned, rented, or borrowed; (b) sources and extent of initial basic knowledge homemakers had regarding operation and care of these appliances; (c) employment of and instruction given to household help; (d) frequency of use and purposes for which appliances were used; (e) type and location of floor covering materials; (f) opinions based on experience with appliances as to quality of work achieved, ease of use, maintenance, and intentions for future use. The second part provided for personal data such as family composition, number of years married, family income, age, education, and gainful employment of the homemaker.

The questionnaire was pretested with ten Greensboro

homemakers, of varying ages who had used one or more of the appliances, to aid in refining and rephrasing of the items. A sample of the revised questionnaire prepared and used is given as Appendix A.

Two hundred questionnaires were distributed to members of eight women's organizations at their regularly scheduled meetings in Greensboro and Mecklenburg County, North Carolina, and upon referral to sixteen other homemakers during March and April, 1966.¹ After a brief introduction to the research study, the forms were completed and returned either at the end of the meeting or by mail. Mail return was accepted in one instance because the club's meeting was so tightly scheduled that it was impossible to complete questionnaires during the meeting time.

Four social and professional organizations in Greensboro cooperated with eighty-three respondents and nine referrals. Four Mecklenburg County Home Demonstration Clubs cooperated with ninety-three respondents and seven referrals, giving a total of 192. A listing of these groups appears as Appendix B. Twenty-four questionnaires were not returned.

Each person to whom referred was contacted either personally or by telephone in order to explain the purpose of the questionnaire. Mail was used to communicate forms to

¹Because the floor washer-dryer is the newest of the floor care appliances, a concerted effort was made to contact users of this appliance through referrals.

persons contacted by telephone.

Letters of appreciation were sent from the Department of Housing and Management to the officers of participating groups and to each person in the referral category. Copies of these letters are shown as Appendixes C and D.

Data were coded and transferred to IBM cards for sorting and analysis. Findings of the study were descriptively analyzed, and patternings were expressed as frequency distributions. Percentages were calculated and presented in tables.

Stage of Family Life Cycle.

More than one-half of the sample were members of families in the expanding stage. One-third were in the contracting stage. The remaining one-third were in the stabilizing stage. The majority of the sample were in the expanding stage. The majority of the sample were in the expanding stage. The majority of the sample were in the expanding stage.

Among the non-users, the majority were in the contracting stage. The majority of the sample were in the expanding stage. The majority of the sample were in the expanding stage.

Table 1 shows the distribution of the sample by stage of family life cycle. The majority of the sample were in the expanding stage. The majority of the sample were in the expanding stage. The majority of the sample were in the expanding stage.

Size of Family.

Similar percentages of the users and non-users were in the expanding stage. The majority of the sample were in the expanding stage. The majority of the sample were in the expanding stage.

CHAPTER IV

FINDINGS

General Characteristics of Respondents

The 192 respondents represented a variety of family groups; 163 had experienced use of one or more of the three floor care appliances, and 29 had not. These two groups are hereafter referred to as users and non-users. Data relative to stage of family life cycle, size of family, age, education, and employment of the homemaker, domestic employees, and annual family income are shown in Table 1.

Stage of Family Life Cycle. More than one-half of the users were members of expanding families with children in the elementary school and high school periods. One-fourth were contracting, all-adult families, twice as many as were founding families with all preschool children. Few were young couples without children or single adults.

Among the non-users, the majority were contracting families. One-fourth were in the expanding stage.

Tabulation of the number of years married showed no appreciable differences in family characteristics from stages in the family life cycle and was not used in analysis.

Size of Family. Similar percentages of the users

TABLE 1

General Family Characteristics
of Users and Non-users

(193 respondents)

Family Characteristics	Respondents			
	Users		Non-users	
	No.	%	No.	%
Stage of Family Life Cycle				
Young Couples	4	3	3	10
Founding Families	20	12	1	4
Expanding Families	93	57	7	24
Contracting Families	42	25	15	52
Single Adults	4	3	3	10
Family Size				
Small (1-3 members)	71	44	23	80
Medium (4-5 members)	75	46	5	17
Large (6 or more members)	17	10	1	3
Age				
Young (under 35)	53	33	5	17
Middle (35-49)	75	46	6	21
Older (50 and over)	35	21	18	62
Education				
5-8 grades	2	1	8	28
1-3 yrs. high school	9	5	5	17
4 yrs. high	31	19	2	7
1-3 yrs. college	39	24	2	7
4 yrs. college	37	23	4	13
Prof., bus., voc. school	45	28	8	28
Employed Homemakers	82	50	10	35
Domestic Employees	69	42	3	10
Annual Income				
Less than \$5,000 (low)	14	9	15	52
\$5,000 to \$9,999 (middle)	64	39	5	17
\$10,000 or more (high)	81	50	7	24
No response	4	2	2	7

represented medium (four or five member) and small (one to three member) families which together accounted for 90 per cent of those respondents. Ten per cent of the families were large (six or more members).

Eighty per cent of the non-user families were small. Of the remainder, more were medium in size than were large families.

Age. Among the users, almost one-half were in the middle category (35 to 49 years); one-third were young homemakers (under 35 years). In contrast, approximately two-thirds of the non-users were over 50 years of age.

Education. The homemakers were asked to indicate the highest grade completed in school. Three-fourths of the users had continued their education beyond high school. These were almost equally divided among those with professional, business, or vocational training; four years or more of college; and less than four years of college. Most of the other users had completed four years of high school.

Among the non-users, over one-fourth had only an elementary school education; the lowest level was fifth grade. A similar number had attended professional, business, or vocational school. One-fifth had attended college.

Employed Homemakers. One-half of the users were employed outside the home either full-time, part-time, or on a volunteer basis. One-third of the non-users were employed.

Domestic Employees. Over 40 per cent of the users reported having domestic employees for household cleaning ranging between one and forty-eight hours a week. Only 10 per cent of the non-user respondents had domestic employees, none of whom worked more than fifteen hours a week.

Annual Family Income. One-half of the users reported incomes of \$10,000 or more, and over one-third ranged between \$5,000 and \$9,999.

More than one-half of the non-users reported low incomes of less than \$5,000. One-fourth were in the high income group.

Overview. Data presented revealed comparative descriptions of homemakers who used at least one of the floor care appliances under study and those who had used none.

The majority of user households included children and were in the founding and expanding life cycle stages, ranging in size from one to five persons. Most of the non-user families, however, were small, contracting families.

Users tended to be younger, have more formal education, were more frequently employed outside the home, and reported higher annual family incomes than did non-users. Four times as many users as non-users had domestic employees for household cleaning.

Floor Care Appliances Used

Homemakers were asked to identify which of the three floor care appliances under study they had used and to indicate whether they were owned, rented, or borrowed (Table 2).

TABLE 2

Floor Care Appliances Used, Whether
Owned, Rented, or Borrowed

Appliance	Total No. Used	Owned		Rented		Borrowed	
		No.	%	No.	%	No.	%
Floor Washer-Dryer	32	30	94	1	3	1	3
Floor Polisher	134	68	51	43	32	23	17
Rug Shampooer	64	16	25	41	64	7	11
Total	230	114	50	85	37	31	13

The number of floor polishers used by the respondents was twice the number of rug shampooers and four times the number of washer-dryers. Forty-four homemakers noted use of a polisher-shampooer combination. Since this appliance is basically a polisher with attachments for rug shampooing, it was considered a polisher in this study.

Ninety-four per cent of the washer-dryers used were owned. Approximately one-half of the polishers were owned, and one-half were rented or borrowed. Three-fourths of the shampooers were either rented or borrowed.

When seen as a whole, an equal number of the one hundred and sixty-three users either owned all or rented and borrowed all floor care appliances they used (Table 3). A considerably smaller group owned some and rented or borrowed others.

TABLE 3

Means of Acquisition

	<u>No.</u>	<u>Per Cent</u>
Own all appliances used	69	42.3
Rent/borrow all appliances used	69	42.3
Both own and rent/borrow appliances used	25	15.4

Respondents were classified according to owners and renters and the number of floor care appliances used:

Use one appliance		101
Own	49	
Rent/borrow	52	
Use two appliances		56
Own both	18	
Own one, rent/borrow one	22	
Rent/borrow both	16	
Use three appliances		6
Own three	2	
Own two, rent/borrow one	0	
Own one, rent/borrow two	3	
Rent/borrow three	1	

Most of the respondents reported using only one of the three floor care appliances; approximately one-half as many reported use of two, and few used all three. There was little difference within each group as to means of acquisition.

Approximately 90 per cent of the appliances owned by the respondents had been purchased (Table 4). Appliance dealers were reported as the most frequent source for purchased floor care appliances, but slightly more washer-dryers were bought from department stores than from appliance dealers. Approximately one-third of all purchases were from department stores. Other sources of appliance purchases included discount stores, stamp redemption stores, door to door salesmen, and secondhand purchases.

Few of the appliances were received as gifts, although more of the polishers were gifts than washer-dryers or shampooers.

More than one-half of these appliances had been owned between two and five years. One of the five polishers that had been owned more than ten years had been in use for seventeen years. The oldest shampooer had been owned for ten years.

Vacuum Cleaners Owned

It was of interest to relate vacuum cleaner ownership to use of other floor care appliances (Table 5).

Vacuum cleaners were owned by 99 per cent of the users and by most of the non-users. Over 70 per cent of each group owned one vacuum cleaner; 20 per cent more users than non-users, however, owned more than one. About 20 per cent of the non-users owned no vacuum cleaner.

TABLE 4

Source and Years of Floor Care Appliance Ownership

Appliance	Total No. Owned	How Acquired										Years Owned			
		Purchased								Gift					
		Total		App.Deal.		Dept.Store		Other ^a				1 or less	2 to 5	5 to 10	11 to 17
		No.	%	No.	%	No.	%	No.	%	No.	%				
Washer-Dryer	30	27	90	12	45	13	48	2	7	3	10	12	18	0	0
Polisher ^b	68	57	84	27	47	14	25	16	28	11	16	5	38	20	5
Shampooer	16	15	94	7	47	4	27	4	27	1	6	4	11	1 ^c	0
Total	114	99	87	46	47	31	31	22	22	15	13	21	67	21	5

^a Discount store, stamp redemption store, door to door salesman, secondhand purchases

^b Includes combination appliances

^c 10 years

TABLE 5

Vacuum Cleaners Owned
(192 respondents)

Respondents	Total		Vacuum Cleaners Owned					
			One		More than One		None	
	No.	%	No.	%	No.	%	No.	%
Users	163	85	118	72	43	27	2	1
Non-users	29	15	21	72	2	7	6	21

The number of vacuum cleaners owned was related to the number of other floor care appliances used (Table 6). Approximately two-thirds of those who owned one vacuum cleaner used one of the appliances under study, and one-third used two of them. One-half of the owners of more than one vacuum cleaner used one of the other appliances, and 40 per cent used two.

Among the respondents who used all of the floor care appliances, a slightly higher percentage owned two or more vacuum cleaners than owned one.

Appliance Utilization

Data regarding the frequency of appliance use was tabulated as daily, weekly, monthly, and yearly (Table 7). Washer-dryers were used more often than the other appliances. Approximately two-thirds were used on a weekly basis, and

one-fifth were used daily.

TABLE 6

Number of Vacuum Cleaners Owned
by Number of Other Floor
Care Appliances Used
(163 respondents)

Number of Vacuum Cleaners Owned	Total		Other Floor Care Appliances Used					
			One		Two		Three	
	No.	%	No.	%	No.	%	No.	%
One	118	72	76	64	39	33	3	3
More than one	43	27	23	53	17	40	3	7
None	2	1	2	100	...	...	...	...

TABLE 7

Frequency of Appliance Use

Appliance	Total Used	Frequency of Use							
		Daily		Weekly		Monthly		Yearly	
		No.	%	No.	%	No.	%	No.	%
Washer-Dryer	32	6	19	20	63	3	9	3	9
Polisher	132 ^a	...	...	15	11	47	36	70	53
Shampooer	64	...	...	...	...	8	12	56	88

^a No response--2

More than one-half of the polishers were used yearly, and over one-third were used monthly.

Shampoos were used with the least frequency. Eighty-eight per cent were used either once or twice a year; the others were used monthly.

Those appliances received as gifts were used less frequently than those purchased by the owners (Table 8). A total of 68 per cent of the purchased appliances were used weekly or monthly; whereas, of the gift appliances, 50 per cent were used yearly.

TABLE 8

Source of Ownership and Frequency of Appliance Use

Frequency of Use	Source of Ownership			
	Purchase		Gift	
	No.	%	No.	%
Daily	5	5	1	7
Weekly	30	30	3	21.5
Monthly	37	38	3	21.5
Yearly	27	27	7	50
Total	99	100	14 ^a	100

^a No response--1

The floor washer-dryer was utilized for scrubbing, removing wax, removing light soil, and picking up spills from resilient floor coverings, wood floors, and hard floor surfaces, providing a possibility of twelve different uses.

There was a tendency among the respondents to use washer-dryers more for scrubbing and removing light soil on resilient floor coverings than to use them on wood floors or hard floor surfaces (Table 9).

TABLE 9

Variety of Washer-Dryer Uses
(32 responses)

Floor Surfaces	Type of Use				
	Scrub	Remove Wax	Remove Lt. Soil	Pick Up Spills	Total
Wood Floors	3	3	...	...	6
Resilient Floor Coverings	18	7	17	12	54
Hard Floor Surfaces	2	2	2	...	6
Total	23	12	19	12	...

The number of uses for the floor washer-dryer ranged between one and four. Patternings of uses are shown as Appendix E. Over one-half were used for two different purposes and one-fourth for only one (Table 10).

Polishers were used most frequently on resilient floor coverings and wood floors (Table 11). Buffing was the use most often reported. Other uses reported by approximately one-half of the respondents were scrubbing, wax application, and wax removal. Polishers were utilized least frequently for rug shampooing and wood refinishing.

TABLE 10

Number of Uses for Washer-Dryer

	<u>No.</u>	<u>Per Cent</u>
One	8	25
Two	17	53
Three	4	13
Four	3	9

The number of uses enumerated per homemaker was greater for the floor polisher than for the washer-dryer. A greater variety also appeared among the uses stated for the polisher ranging from one to eleven. Patterning of these uses appear as Appendix F. Over two-thirds were used for two to five purposes (Table 12).

TABLE 12

Number of Uses for Polisher
(132 responses)

	<u>No.</u>	<u>Per Cent</u>
One	23	17
Two	31	24
Three	25	19
Four	19	15
Five	17	13
Six	8	6
Seven	4	3
Eight and over	4	3

TABLE 11

Variety of Polisher Uses
(132 responses)

Floor Surfaces	Uses						
	Scrub	Remove Wax	Apply Wax	Buff	Refinish	Shampoo	Total
Wood Floors	13	20	32	93	4	...	162
Resilient Floor Coverings	55	37	31	92	...	...	215
Hard Floor Surfaces	8	5	1	11	...	...	25
Carpets, Rugs	...	...	...	...	...	32	32
Table Tops	...	...	...	2	...	...	2
Total	76	62	64	198	4	32	...

Respondents noted persons who used the appliances for household cleaning activities in order of frequency (Table 13). Homemakers were the primary users of 84 per cent of the washer-dryers and 70 per cent of all appliances used. Domestic employees followed in second position. Husbands used polishers and shampoos more than did domestic employees but used the washer-dryers not at all.

Respondents' Knowledge of Appliances

When asked for sources of information on floor care appliances, all respondents indicated they had utilized magazines (Table 14). Television was reported by two-thirds

TABLE 14

Distribution of Sources of Information to Users

	<u>No.</u>	<u>Per Cent</u>
Magazines	163	100
Television	108	66
Sales personnel	75	46
Newspapers	69	42
Experience with appliances	60	37
Study groups	52	32
Use and care booklet	51	31
Bulletins and leaflets	47	29
Other appliance users	30	18
Classes in school	7	5

TABLE 13
Appliance Users by Frequency of Use

Appliance	Total	By Whom Used															
		Homemaker				Maid				Husband				Other ^a			
		Most Often		Less Often		Most Often		Less Often		Most Often		Less Often		Most Often		Less Often	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Floor Washer-Dryer	32	27	84	2	6	4	13	3	9	0	...	0	...	1	3	1	3
Floor Polisher ^b	133	90	68	15	11	24	18	11	8	17	13	19	14	2	1	6	5
Rug Shampooer	64	43	67	1	2	10	16	4	6	11	17	7	11	0	...	2	3
Total	229	160	70	18	8	38	17	18	8	28	12	26	11	3	1	9	4

^a Other adults, children

^b No response--1

of the users; and sales personnel, newspapers, and experience with the appliances were each mentioned by more than one-third. Slightly less than one-third noted information from study groups, use and care booklets, and bulletins and leaflets. Advice of other appliance users and classes in school were reported by few.

When sources of information were classified as advertising and commercial, educational and general interest, personal contacts, and experience, it was found that educational and general interest sources were the most frequently reported. Advertising and commercial sources were second in importance; personal contacts and experience were third and fourth, respectively. Demonstrations by sales persons ranked higher than their recommendations. Combinations of responses varied between one and six components within these categories.

Classification and frequency of sources of information follow:

Educational, general interest		258
Magazine articles	77	
Study groups	52	
Use and care booklet	51	
Television programs	27	
Newspaper articles	24	
Educational bulletins, leaflets	20	
Classes in school	7	
Advertising, commercial		239
Magazine advertisements	86	
Television commercials	81	
Newspaper advertisements	45	
Advertising bulletins, leaflets	27	
Personal contacts		95
Sales person's demonstration	45	

Other users' recommendation	30
Sales person's recommendation	20

Experience 60

Homemakers indicated sources of information given domestic employees regarding the use of floor care appliances (Table 15).

TABLE 15

Distribution of Information to Domestic Employees
(69 respondents)

	<u>No.</u>	<u>Per Cent</u> ^a
Homemaker showed employee how to use	28	41
Homemaker told employee how to use	15	22
Employee had had previous experience	15	22
Employee read use and care booklet	3	4
Employee attended classes in domestic service	1	1
Homemaker did not know	3	4
Employee did not use	10	14

^a Because of multiple answers, percentages total more than 100.

Two-fifths of the homemakers showed the employee how to use the appliances; approximately one-fifth gave verbal instructions, and another one-fifth reported the employee had learned appliance operation prior to present employment. Few of the workers read the use and care booklet, and only one domestic employee had learned to use appliances during classes in domestic service. Some of the respondents did

not know how their domestic employee learned to operate floor care equipment; others indicated that the employee did not use it.

The extent of homemakers' knowledge regarding floor care appliances prior to use was identified by responses to informational items grouped as warranty; care, use, storage; functions, features. The modal number of categories of information was three (Table 16). Approximately 40 per cent of the users did not indicate having any information prior to use.

TABLE 16

Number of Categories of Knowledge
Reported by Users

	<u>No.</u>	<u>Per Cent</u>
One	9	5
Two	29	18
Three	63	39
No response	62	38

An almost equal number of homemakers had knowledge concerning care, use, and storage and concerning functions and features (Table 17). Less than one-half knew about the warranty. Only slightly more than one-half of the users had knowledge in any one of the categories cited.

TABLE 17

Extent of Knowledge Reported by Users

	<u>No.</u>	<u>Per Cent</u> ^a
Warranty	73	45
Care, use, storage	92	57
Functions, features	91	56

^a Because of multiple answers, percentages will total more than 100.

Floor Surfaces and Coverings

Differences were noted between users and non-users regarding types and areas of floor surfaces and floor coverings in their homes (Table 18). More users indicated some rooms with hard floor surfaces than non-users. A greater percentage of non-users than users had some rooms with wood floors. Approximately one-half of the users had rugs or carpeting in most rooms of the house (four to ten rooms).

User Satisfactions

Users' satisfactions were expressed by ratings assigned to seven factors relating to appliance utilization. They were quality of work achieved, ease of use, weight, size, ease of storage, price, and upkeep. Scores were interpreted as:

5 - extremely satisfactory

TABLE 18

Floor Surfaces and Coverings Reported
by Users and Non-users

Floor Surfaces and Coverings	Respondents			
	Users		Non-users	
	No.	%	No.	%
Wood Floors				
1-3 rooms	55	34	14	49
4-6 rooms	56	34	7	24
7-10 rooms	3	2	2	7
None	49	30	6	20
Resilient Floor Coverings				
1-3 rooms	91	56	19	65
4-6 rooms	50	31	7	24
7-10 rooms	15	9	2	7
None	7	4	1	4
Hard Floor Surfaces				
1-3 rooms	110	67	7	24
4-6 rooms	14	9	1	4
7-10 rooms	0	...	0	...
None	39	24	21	72
Rugs, Carpeting				
1-3 rooms	71	44	15	52
4-6 rooms	51	31	8	28
7-10 rooms	28	17	0	...
None	13	8	6	20

4 - more satisfactory than expected

3 - satisfactory

2 - less satisfactory than expected

1 - extremely unsatisfactory

When mean scores were calculated from all responses, only slight variations were found among them, the range being between 2.92 and 3.50 (Table 19). The combined total mean for all appliances was between satisfactory and more satisfactory than expected.

TABLE 19

Appliance User Satisfaction Scores

Appliance	Mean Scores							
	Total Satisfactions	Qual. Work Achieved	Ease of Use	Weight	Size	Storage	Price	Upkeep
Washer-Dryer	3.19	2.92	3.45	3.45	3.30	3.00	2.95	3.44
Polisher	3.40	3.50	3.49	3.27	3.33	3.32	3.38	3.47
Shampooer	3.06	3.08	3.03	3.00	3.11	3.09	3.00	3.07
All three appliances	3.29	3.34	3.37	3.23	3.27	3.22	3.23	3.40

Overall ratings were highest for the polisher and lowest for the shampooer. Greatest satisfactions were expressed regarding quality of work achieved with the polisher, its ease of use, and upkeep. Only the washer-dryer was rated as less satisfactory than expected; the two factors most responsible were quality of work achieved and price.

When all three appliances were considered, upkeep was the highest rated factor. Storage, price, and weight were rated lowest.

Purchase and Replacement Intentions

Approximately three-fourths of the floor care appliance owners indicated they would replace equipment items owned (Table 20).

TABLE 20

Replacement Intentions Expressed by Appliance Owners

Appliance	Total Owned	Replacement					
		Yes		No		Undecided	
		No.	%	No.	%	No.	%
Washer-Dryer	30	21	70	2	7	7	23
Polisher	68	52	74	11	16	5	10
Shampooer	16	9	56	5	31	2	13
Total	114	82	72	18	16	14	12

A higher percentage of polisher owners said they would repurchase than did owners of the other appliances. Lowest indications for replacement occurred among shampooer owners. Greatest indecision was expressed by washer-dryer owners.

A frequency listing of reasons given in opposition to replacement was:

Poor quality of work achieved	5
Preference for commercial cleaning service	4
Infrequency of use	3
Preference for appliance not on market	3
Difficulty in use	2
Preference for renting	1

Those who expressed preference for appliances not yet on the market would like one combination floor care appliance with functions and features of the floor washer-dryer, polisher, and rug shampooer.

Respondents noted appliances not presently owned which they would like to purchase in the future (Table 21). Two-thirds of these indications were for the polisher; and among the remainder, there was about equal preference for the washer-dryer and the shampooer.

Some of the non-owners expressed preferences for appliance rental as opposed to appliance ownership (Table 22). One-third of the reasons given involved infrequency of use

and cost of ownership. Storage was the third reason. Other responses included opportunity for using the "best" or "newest" appliances and heavier equipment than available on the non-commercial market. Some stated no reason for preferring to rent.

TABLE 21

Future Purchase Intentions Expressed by
Appliance Non-owners

	<u>No.</u>	<u>Per Cent</u>
Floor Polisher	40	68
Floor Washer-Dryer	11	18
Rug Shampooer	10	16
Total	61	100

TABLE 22

Distribution of Reasons Expressed for
Preferring to Rent Appliances

	<u>No.</u>	<u>Per Cent</u>
Infrequency of use	24	36
Cost	18	27
Storage	11	17
Other	5	8
No reason	8	12
Total	66	100

Probable Factor Relationships

A review of findings seems to indicate that relationships probably exist between selected factors and combinations of them and appliance utilization.

Single factors:

1. Stage of family life cycle (Table 1)
2. Age of homemaker (Table 1)
3. Family income level which likely relates to employment of homemaker and domestic employees (Table 1)
4. Source of acquisition (Table 8)
5. Number of rooms with specific floor coverings on floors (Table 18)
6. Homemakers' reliance on magazines and television as primary sources of knowledge which may be biased or promotional in nature (Table 14)

Interrelated factors:

1. Lack of information which relates to failure to use appliances for intended purposes and tendency to use appliances for purposes that are not advertised
2. Interrelationship of homemaker as primary user, improper appliance use, and lack of knowledge about appliances
3. Low scores on ratings of satisfactions as related

to improper use and lack of knowledge

4. High incidence of satisfactions and high frequency of polisher utilization
5. High incidence of wishing to purchase polishers associated with low income level of non-users

During the past half century non-commercial floor care appliances have been redesigned and new ones added for the care of newly developed floor coverings and surfaces used in American homes. It was the purpose of this study to gain some indication of homemakers' knowledge and utilization of the floor washer-dryer, floor polisher, and rug shampooer; because there was no knowledge of previous research regarding use of these appliances.

The specific objectives were to:

1. Identify the basic floor care appliances that homemakers own, rent, or borrow for the care of their homes.
2. Determine the frequency of use of these appliances and by whom used--the homemaker, other members of the family, or domestic employees.
3. Identify the sources and extent of the homemakers' knowledge as to the operation and care of these appliances.
4. Identify factors which may be associated with the extent of appliance use by homemakers.

Data were collected by a questionnaire from one hundred

CHAPTER V

SUMMARY AND CONCLUSIONS

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4. Identify factors which may be associated with the extent of appliance use by homemakers.

Data were collected by a questionnaire from one hundred

and ninety-two homemakers of whom one hundred and sixty-three had used one or more of the appliances studied. Respondents were members of social, professional, and educational organizations in Greensboro and Mecklenburg County, North Carolina, and other appliance users contacted on a referral basis.

Most of the appliance users were small or medium sized expanding families; the twenty-nine non-users were primarily small, contracting families. Users tended to be younger, have more formal education, were more frequently employed outside the home, and employed more domestic help for household cleaning than did non-users. A majority of the non-users reported low annual family incomes, whereas one-half of the users had high incomes.

Essentially all the users owned one or more vacuum cleaners. Few of the non-users owned more than one vacuum cleaner, and one-fifth owned none.

Most of the washer-dryers and half of the polishers used were owned; however, a majority of the shampooers were rented. An equal percentage of all the users either owned all or rented and borrowed all the appliances they used. Most respondents used only one of the floor care appliances under study; approximately one-third used two, and few used all three.

Few of the appliances owned by the respondents were received as gifts; most of them had been purchased from

appliance dealers. Those purchased tended to be used more often than those received as gifts.

Washer-dryers were used most for scrubbing and removing light soil from resilient floor coverings. Polishers were used for buffing wood floors and resilient floor coverings more than for other floor care activities. All appliances were used most frequently by homemakers and secondly by domestic employees.

Educational and general interest sources were reported most frequently as providing information on floor equipment. Magazines were utilized as information sources by all the respondents and television by two-thirds. Other sources, in order of descending frequency, included sales personnel, newspapers, and experience with appliances. Use and care booklets and advice of other users were among the least frequently reported sources of information. This is in contrast to findings of studies on other appliances noted in the review of literature.

More homemakers had knowledge prior to appliance use concerning care, use, and storage than concerning functions and features; less than one-half knew about the warranty.

With a five point rating scale, appliance users expressed their satisfactions with the appliances regarding quality of work achieved, ease of use, weight, size, ease of storage, price, and upkeep. Overall ratings were highest for the polisher and lowest for the shampooer. The combined

total score for all appliances was higher than satisfactory, but not more satisfactory than expected. Upkeep was the highest rated factor, and storage received the lowest rating.

Most of the appliance owners indicated they would replace the equipment in the future. Highest intentions were among polisher owners; lowest intentions were among shampooer owners. Greatest indecision regarding replacement was expressed by washer-dryer owners. Reasons given were poor quality of work achieved and preference for commercial cleaning service.

By and large, homemakers did not know the potential of the appliances they owned or those available for rental. This situation may be related to:

1. Stage of family life cycle.
2. Family income level and employment of homemaker.
3. Types and areas of floor coverings.
4. Reliance on biased or promotional type sources of equipment information.

New equipment is continually being added to the market. Manufacturers and dealers strive to coordinate quality and performance of these items to the demands of consumers in caring for their homes. They should be able to offer the services and information needed by the American shopper today.

Perhaps the consumer could make wiser usage of appliances if he investigated the information available to him through educational sources. He must have a greater

awareness of these sources and be able to exercise discretion in the utilization of them.

Inconsistency of low satisfaction levels with relatively high replacement intentions may be due to lack of knowledge of other alternatives.

Findings of this study should have implications useful to home economics teachers and specialists in the field of household equipment and for other educators whose programs involve homemakers and domestic service employees.

Based on the interpretations of the findings, it is recommended that this study be repeated using a stratified random sample which would provide a basis for extrapolation in regard to consumers' knowledge and utilization of these floor care appliances.

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APPENDIX A

QUESTIONNAIRE

Floor Care Appliances

Please answer the following questions according to what you really know about floor care appliances and how you actually use them. If an item does not apply to your situation, leave it blank and go on to the next one. Feel free to write additional comments on the reverse side of this questionnaire.

1. How many cleaners do you own? (check)

one _____; more than one _____; none _____

2. If you use any of the appliances listed below, check whether you own, rent, or borrow them.

	Own	Rent	Borrow
Floor Washer-Dryer	_____	_____	_____
Floor Polisher	_____	_____	_____
Rug Shampooer	_____	_____	_____

APPENDIXES

Do you use a combination polisher-shampooer? yes _____; no _____
If so, regard it as a polisher in answering the remaining questions.

3. If you own any of these appliances, how did you acquire them? How many years ago? (Write number on correct line below.)

How Acquired	Years Owned		
	Washer-Dryer	Polisher	Shampooer
Appliance dealer	_____ yrs.	_____ yrs.	_____ yrs.
Department store	_____ yrs.	_____ yrs.	_____ yrs.
Discount store	_____ yrs.	_____ yrs.	_____ yrs.
Stamp redemption store	_____ yrs.	_____ yrs.	_____ yrs.
Door to door salesman	_____ yrs.	_____ yrs.	_____ yrs.
Secondhand purchase	_____ yrs.	_____ yrs.	_____ yrs.
Received as gift	_____ yrs.	_____ yrs.	_____ yrs.
Other:	_____ yrs.	_____ yrs.	_____ yrs.

APPENDIX A

QUESTIONNAIRE

Floor Care Appliances

- I. Please answer the following questions according to what you really know about floor care appliances and how you actually use them. If an item does not apply to your situation, leave it and go on to the next one. Feel free to write any additional comments on the reverse side of this questionnaire.

1. How many vacuum cleaners do you own? (check)

one _____; more than one _____; none _____

2. If you use any of the appliances listed below, check whether you own, rent, or borrow them.

	Own	Rent	Borrow
Floor Washer-Dryer	_____	_____	_____
Floor Polisher	_____	_____	_____
Rug Shampooer	_____	_____	_____

Do you use a combination polisher-shampooer? yes _____; no _____
If so, regard it as a polisher in answering the remaining questions.

3. If you own any of these appliances, how did you acquire them? How many years ago? (Write number on correct line below.)

How Acquired	Years Owned		
	Washer-Dryer	Polisher	Shampooer
Appliance dealer	_____ yrs.	_____ yrs.	_____ yrs.
Department store	_____ yrs.	_____ yrs.	_____ yrs.
Discount store	_____ yrs.	_____ yrs.	_____ yrs.
Stamp redemption store	_____ yrs.	_____ yrs.	_____ yrs.
Door to door salesman	_____ yrs.	_____ yrs.	_____ yrs.
Secondhand purchase	_____ yrs.	_____ yrs.	_____ yrs.
Received as gift	_____ yrs.	_____ yrs.	_____ yrs.
Other: _____	_____ yrs.	_____ yrs.	_____ yrs.

before you employed her

She had no instruction before using them

You do not know how she learned to use them

She does not use them

Other: _____

4. Check the following sources from which you learned anything about floor care appliances.

<input type="checkbox"/> Magazines	<input type="checkbox"/> Television
<input type="checkbox"/> articles	<input type="checkbox"/> commercials
<input type="checkbox"/> advertisements	<input type="checkbox"/> programs
<input type="checkbox"/> Bulletins or leaflets	<input type="checkbox"/> Classes in school
<input type="checkbox"/> for educational purposes	<input type="checkbox"/> Experience with appliances
<input type="checkbox"/> for advertising; sales promotion	<input type="checkbox"/> Recommendations of other appliance users
<input type="checkbox"/> Newspapers	<input type="checkbox"/> Salesman
<input type="checkbox"/> articles	<input type="checkbox"/> demonstration
<input type="checkbox"/> advertisements	<input type="checkbox"/> recommendation
<input type="checkbox"/> Study groups	<input type="checkbox"/> Use and care booklet
<input type="checkbox"/> Woman's clubs	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Home Demonstration Clubs	
<input type="checkbox"/> 4-H Clubs	
<input type="checkbox"/> Other: _____	

5. Listed here are informational items relating to floor appliances. Check if you knew or had this information before using the appliance.

<input type="checkbox"/> Guarantee on appliance	<input type="checkbox"/> Oiling the motor
<input type="checkbox"/> U. L. seal	<input type="checkbox"/> Location of on and off switch
<input type="checkbox"/> Capacity of tank	<input type="checkbox"/> Location of water trigger
<input type="checkbox"/> Emptying and filling water tank	<input type="checkbox"/> Recommendations for storage
<input type="checkbox"/> Removing and replacing brushes	<input type="checkbox"/> Available attachments
<input type="checkbox"/> Cleaning appliance	<input type="checkbox"/> Multipurpose use

6. Do you employ domestic help for cleaning?
yes __, __ hours per week; no __

7. How did your domestic employee learn to use these appliances? (check)

☐ You told her how to use them
☐ You showed her how to use them
☐ She read the use and care booklet
☐ She learned by attending classes in domestic service
☐ She had had previous experience with these appliances before you employed her
☐ She had no instruction before using them
☐ You do not know how she learned to use them
☐ She does not use them
☐ Other: _____

8. Check to indicate how often these appliances are used in your home.

	Washer-Dryer	Polisher	Shampooer
Everyday	_____	_____	_____
More than once a week	_____	_____	_____
Once a week	_____	_____	_____
More than twice a month	_____	_____	_____
Twice a month	_____	_____	_____
Once a month	_____	_____	_____
More than twice a year	_____	_____	_____
Twice a year	_____	_____	_____
Once a year	_____	_____	_____
Other: _____	_____	_____	_____

9. By whom are these appliances most frequently used in your home? (List three persons in order).

	(1)	By Whom Used (2)	(3)
Washer-Dryer	_____	_____	_____
Polisher	_____	_____	_____
Shampooer	_____	_____	_____

10. What kinds of floor surfaces and coverings do you have in your home? Resilient floor coverings include asphalt tile, vinyl asbestos tile, vinyl sheet or tile, rubber sheet or tile, linoleum sheet or tile, and cork tile. Hard floor surfaces include flagstone, slate, marble, ceramic, concrete, terrazzo, and brick. If you have a combination of two or more kinds in the same room, check each classification. Also, write in the number of bathrooms and bedrooms in your home.

	Carpeting; Area rugs	Wood	Resilient Coverings	Hard Surfaces
Living room	_____	_____	_____	_____
Dining room	_____	_____	_____	_____
Family room	_____	_____	_____	_____
Recreation room	_____	_____	_____	_____
Den or study	_____	_____	_____	_____
Kitchen	_____	_____	_____	_____
Breakfast room	_____	_____	_____	_____
Utility room	_____	_____	_____	_____
Bathrooms) write in	_____	_____	_____	_____
Bedrooms) how many	_____	_____	_____	_____
Hall	_____	_____	_____	_____
Foyer or entry	_____	_____	_____	_____
Other: _____	_____	_____	_____	_____

11. Check the ways in which you use these appliances on different kinds of floor surfaces and coverings. (Manufacturers' recommendations may vary with individual models.)

Appliance Uses	Types of Floor Surfaces, Coverings			
	Carpeting; Area Rugs	Wood	Resilient Coverings	Hard Surfaces
Washer-Dryer:				
Scrubbing	_____	_____	_____	_____
Removing wax	_____	_____	_____	_____
Removing light soil	_____	_____	_____	_____
Cleaning up spills	_____	_____	_____	_____
Other: _____	_____	_____	_____	_____
Polisher:				
Scrubbing	_____	_____	_____	_____
Removing wax	_____	_____	_____	_____
Applying paste wax	_____	_____	_____	_____
Dispensing liquid wax	_____	_____	_____	_____
Buffing	_____	_____	_____	_____
Refinishing	_____	_____	_____	_____
Other: _____	_____	_____	_____	_____
_____ Buffing table tops	_____	_____	_____	_____
_____ Shampooing carpets; rugs	_____	_____	_____	_____
Shampooer:				
Shampooing carpets	_____	_____	_____	_____
Shampooing area rugs	_____	_____	_____	_____
Other: _____	_____	_____	_____	_____

12. Write the number below which best describes your opinion of these appliances for each of the factors listed:

- 5-Extremely satisfactory
 4-More satisfactory than expected
 3-Satisfactory
 2-Less satisfactory than expected
 1-Extremely unsatisfactory

	Washer-Dryer	Polisher	Shampooer
Quality of work achieved	_____	_____	_____
Ease of use	_____	_____	_____
Weight	_____	_____	_____
Size	_____	_____	_____
Ease of storage	_____	_____	_____
Price	_____	_____	_____
Upkeep	_____	_____	_____
Other: _____	_____	_____	_____

13. a) If you own these appliances, would you consider purchasing one again?

	yes	no	undecided
Washer-Dryer	_____	_____	_____
Polisher	_____	_____	_____
Shampooer	_____	_____	_____

- b) If you now own them but would not care to replace them, why?

- c) If you do not own them, which ones would you like to purchase, if any?

- d) Would you prefer to rent them? Why?

Grade School	Jr. High School	Sr. High School
1 2 3 4 5 6	7 8 9	10 11 12

College	Graduate Work	Professional Training
1 2 3 4		

Business or Vocational Training _____

Thank you for your cooperation. If you know of others who would be willing to complete a questionnaire, please write their names and addresses below.

II. In order to categorize your answers to the questions in Part I, we need some general information. Please do not write your name on this questionnaire.

1. Number of persons living in your household:
Adults_____

Children: Preschool____; Grade school____;
High school____; Older_____

2. How long have you been married?_____years

3. Approximate annual family income:

Less than \$5,000____; \$5,000 to \$9,999____; \$10,000 to \$14,999____
\$15,000 or over_____

4. Your age: Under 35____; 35 to 49____; 50 and over____

5. If you are employed outside your home, is it full time?____;
part time?____; volunteer?____

6. Indicate the highest grade you completed in school: (Circle number or check on line.)

Grade School	Jr. High School	Sr. High School
1 2 3 4 5 6	7 8 9	10 11 12

College	Graduate Work____	Professional Training____
1 2 3 4		

Business or Vocational Training____

Thank you for your cooperation. If you know of others who have used any of these appliances and would be willing to complete a questionnaire, please write their names and addresses below.

APPENDIX B

Cooperating Groups	Respondents
Greensboro	
Bud 'n' Blossom Garden Club	15
Charter Chapter, American Business Women's Association	32
Rushettes of Greensboro	17
St. Agatha's Chapter, St. Andrew's Episcopal Church	19
Referrals	9
Mecklenburg County	
Derita Home Demonstration Club	29
Montclair Home Demonstration Club	20
Sharon Home Demonstration Club	22
Wilgrove Home Demonstration Club	22
Referrals	7

APPENDIX C

Copy of Letter to Club Officers

Dear

We appreciate very much your interest and cooperation in allowing Ann Wilcox to present to your membership an overview of her research problem and to solicit their participation in a questionnaire.

It is only through such cooperation that students gain experience in empirical studies, and whereby factual knowledge becomes available.

We hope your group has a feeling of satisfaction from its recent participation and will be willing to contribute to education in research methods for others, should needs warrant our contacting you in future years.

Sincerely,

Jane H. Crow
Professor and Chairman
Housing and Management Area

APPENDIX D

Copy of Letter to Respondents Contacted
through Referrals

Dear

We appreciate very much your interest and cooperation with one of our graduate students, Ann Wilcox, by participation in giving information which she can use as part of her thesis study. It is only through willingness of persons such as yourself that students can gain necessary experiences in research and whereby factual knowledge becomes available.

I hope you had a feeling of satisfaction from your contribution, for it is valuable for Miss Wilcox's study.

Sincerely,

Jane H. Crow
Professor and Chairman
Housing and Management

APPENDIX E

Patternings of Washer-Dryer Uses with Frequencies ()

<u>One Use</u> (8)	<u>Two Uses</u> (17)	<u>Three Uses</u> (4)	<u>Four Uses</u> (3)
2 (4)	--1 (1)	2--11--1 (1)	2--3--5--6 (1)
8 (4)	2--4 (1)	--8 (2)	--8--9--11 (1)
	2--5 (5)	4--5--9 (1)	1--3--4--6 (1)
	2--8 (2)		
	11--8 (8)		

Code

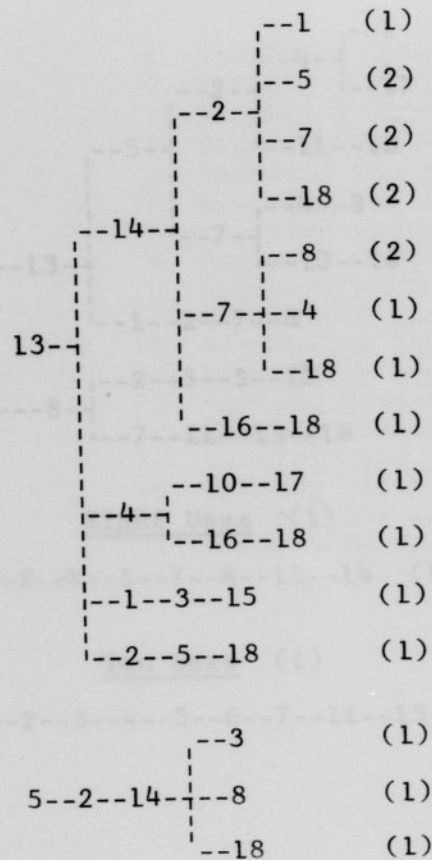
- | | |
|--|--|
| 1 Scrubbing wood floors | 9 Removing light soil from hard floor surfaces |
| 2 Scrubbing resilient floor coverings | 10 Cleaning up spills from wood floors |
| 3 Scrubbing hard floor surfaces | 11 Cleaning up spills from resilient floor coverings |
| 4 Removing wax from wood floors | 12 Cleaning up spills from hard floor surfaces |
| 5 Removing wax from resilient floor coverings | |
| 6 Removing wax from hard floor surfaces | |
| 7 Removing light soil from wood floors | |
| 8 Removing light soil from resilient floor coverings | |

APPENDIX F

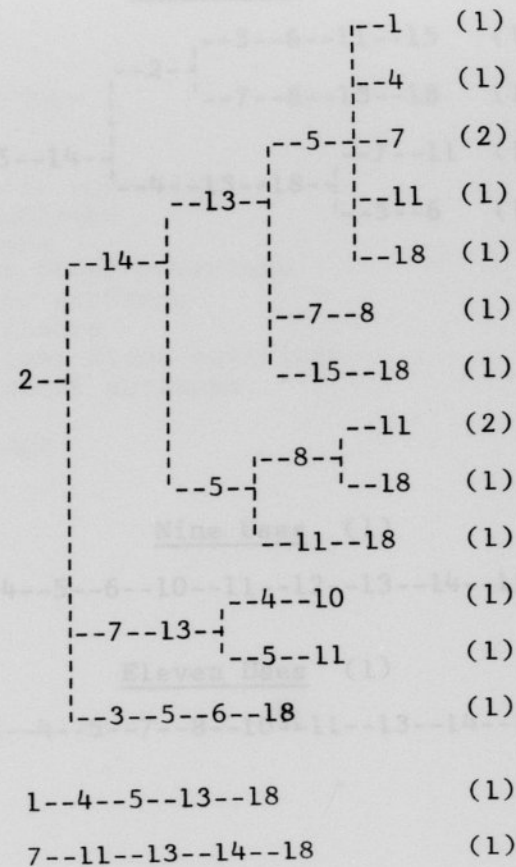
Patternings of Polisher Uses with Frequencies ()

<u>One Use</u> (23)	<u>Two Uses</u> (31)	<u>Three Uses</u> (25)
1 (1)	--2 (1)	--1 (1)
2 (1)	--4 (2)	--7--4 (1)
13 (11)	13--7 (1)	--18 (1)
14 (8)	--10 (1)	--2 (4)
18 (2)	--18 (1)	--7 (1)
		13--14--15 (5)
		--18 (2)
	--2 (6)	--1 (1)
	--8 (1)	--4--5 (1)
	14--11 (1)	--2--3 (1)
	--13 (15)	18--4--5 (1)
	--18 (2)	

Four Uses (19)



Five Uses (17)



Six Uses (8)

14-
--13--
--1--2--7--8 (1)
--2--3--5--15 (1)
--7--11--13--18 (1)
--4--8 (1)
--11--18 (1)
--2--
--4--
--1--17 (1)
--1 (1)

Eight Uses (1)

1--2--4--5--7--8--13--14 (1)

Ten Uses (1)

1--2--3--4--5--6--7--11--13--17 (1)

Seven Uses (4)

5--14-
--4--13--18--
--7--11 (1)
--5--6 (1)
--2--
--7--8--13--18 (1)
--3--6--11--15 (1)

Nine Uses (1)

4--5--6--10--11--12--13--14--15 (1)

Eleven Uses (1)

1--2--4--5--7--8--10--11--13--14--18 (1)

Code

- 1 Scrubbing wood floors
- 2 Scrubbing resilient floor coverings
- 3 Scrubbing hard floor surfaces
- 4 Removing wax from wood floors
- 5 Removing wax from resilient floor coverings
- 6 Removing wax from hard floor surfaces
- 7 Applying paste wax to wood floors
- 8 Applying paste wax to resilient floor coverings
- 9 Applying paste wax to hard floor surfaces
- 10 Dispensing liquid wax to wood floors
- 11 Dispensing liquid wax to resilient floor coverings
- 12 Dispensing liquid wax to hard floor surfaces
- 13 Buffing wood floors
- 14 Buffing resilient floor coverings
- 15 Buffing hard floor surfaces
- 16 Buffing table tops
- 17 Refinishing wood floors
- 18 Shampooing carpets and rugs